

Appl. No. 09/696,566
Amdt. dated 6/06/2006
Reply to the Office Action of 03/06/2006

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for distributing electronic mail efficiently across a network of information processing units and intermediate nodes, the method on an information processing unit comprising the steps of:

receiving a mail message that is created and sent by a user, the user associating the mail message with a plurality of individual destinations; and

sending a single copy of the mail message, in a multicast packet and using a reliable multicast technique, across the network via at least one intermediate node to the plurality of individual destinations, the plurality of individual destinations corresponding to a plurality of individual destination network addresses, wherein the multicast packet includes a packet header comprising the plurality of individual destination network addresses, wherein at least one of the plurality of individual destination network addresses is a unicast address, and wherein the mail message is destined for reception at the individual destination corresponding to the unicast address as an ordinary unicast packet.

2. (Previously Presented) The method as defined in claim 1, wherein the reliable multicast technique comprises a reliable Small Group Multicast technique.

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3. (Currently Amended) An information processing unit for distributing electronic mail efficiently across a network of information processing units and intermediate nodes, the information processing unit comprising:

a reception unit for receiving a mail message with addresses corresponding to a plurality of individual destinations; and

a transmission unit for sending a single copy of the mail message, in a multicast packet and using a reliable multicast technique, across the network via at least one intermediate node to the plurality of individual destinations, the plurality of individual destinations corresponding to a plurality of individual destination network addresses, wherein the multicast packet includes a packet header comprising the plurality of individual destination network addresses, wherein at least one of the plurality of individual destination network addresses is a unicast address, and wherein the mail message is destined for reception at the individual destination corresponding to the unicast address as an ordinary unicast packet.

4. (Previously Presented) The information processing unit as defined in claim 3, wherein the reliable multicast technique comprises a reliable Small Group Multicast technique.

5. (Original) The information processing unit as defined in claim 3, wherein the transmission unit operates according to a communication protocol to process ACKs and NAKs as well as packet retransmissions.

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6. (Previously Presented) A computer readable medium including instructions for distributing electronic mail efficiently across a network of information processing units and intermediate nodes, the computer readable medium comprising instructions for:
- receiving a mail message with addresses corresponding to a plurality of individual destinations; and
 - sending a single copy of the mail message, in a multicast packet and using a reliable multicast technique, across the network via at least one intermediate node to the plurality of individual destinations, the plurality of individual destinations corresponding to a plurality of individual destination network addresses, wherein the multicast packet includes a packet header comprising the plurality of individual destination network addresses, wherein at least one of the plurality of individual destination network addresses is a unicast address, wherein the mail message is destined for reception at the individual destination corresponding to the unicast address as an ordinary unicast packet.
7. (Previously Presented) The computer readable medium as defined in claim 6, wherein the reliable multicast technique comprises a reliable Small Group Multicast technique.

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8. (Previously Presented) A method for distributing electronic mail across a network of information processing units and intermediate nodes; the method on an intermediate node comprising the steps of:

receiving a mail message in a multicast packet including a packet header comprising a plurality of individual destination network addresses, wherein at least one of the plurality of individual destination network addresses is a unicast address, and wherein the mail message is destined for reception at the individual destination corresponding to the unicast address as an ordinary unicast packet;

determining one or more "next hops" corresponding to the plurality of individual destination network addresses in the packet header for forwarding the packet;

replicating the packet for each "next hop"; and

forwarding one copy of the packet to each of the "next hops".

9. (Original) The method as defined in claim 8, wherein the determining, replicating and forwarding steps operate according to a Small Group Multicast scheme.

10. (Original) The method as defined in claim 8, further comprising the step of:

repetitively executing the determining, replicating and forwarding steps for each newly received packet.

11. (Original) The method as defined in claim 8, further comprising the steps of:

processing ACKs and/or NAKs; and

performing packet retransmissions.

12. (Previously Presented) The method as defined in claim 8, wherein the multicast packet comprises a Small Group Multicast packet.

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13. (Previously Presented) A computer readable medium including instructions for distributing electronic mail efficiently across a network of information processing units and intermediate nodes, the computer readable medium comprising instructions for:

receiving a mail message in a multicast packet including a packet header comprising a plurality of individual destination network addresses, wherein at least one of the plurality of individual destination network addresses is a unicast address, and wherein the mail message is destined for reception at the individual destination corresponding to the unicast address as an ordinary unicast packet;

determining the "next hop" for each individual destination network address of the plurality of individual destination network addresses in the packet header; and

replicating the packet for each "next hop".

14. (Original) The computer readable medium as defined in claim 13, further comprising the instruction for:

forwarding a copy of the packet to each "next hop".

15. (Original) The computer readable medium as defined in claim 14, further comprising the instruction for:

repetitively executing the determining, duplicating and forwarding steps for each newly received packet.

16. (Original) The computer readable medium as defined in claim 15, further comprising the instructions for:

processing ACKs and/or NAKs; and

handling packet retransmissions.

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17. (Previously Presented) An intermediate node for distributing electronic mail efficiently across a network of information processing units and intermediate nodes, the intermediate node comprising:

a reception unit for receiving a mail message in a multicast packet including a packet header comprising a plurality of individual destination network addresses, wherein at least one of the plurality of individual destination network addresses is a unicast address, and wherein the mail message is destined for reception at the individual destination corresponding to the unicast address as an ordinary unicast packet;

a determination unit for determining the "next hop" for each individual destination network address of the plurality of individual destination network addresses in the packet header; and

a copying unit for replicating the packet for each of the "next hops".

18. (Original) The intermediate node as defined in claim 17, further comprising:

a forwarding unit for forwarding a copy of the packet to each of the "next hops".

19. (Original) The intermediate node as defined in claim 18, further comprising:

a repeater unit for repetitively executing the determining, duplicating and forwarding steps for each newly received packet.

20. (Original) The intermediate node as defined in claim 19, further comprising:

an acknowledge unit for processing ACKs and/or NAKs; and

a retransmit unit for handling packet retransmissions.